**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. **(Currently Amended)** A pattern recognition apparatus, said apparatus comprising:

an input arrangement which inputs patterned features;

a base model arrangement which provides at least one base model;

an environment detector which ascertains an environment from which the at least one base model originated; and

a transform arrangement which produces a stacked target model based on a feature vector corresponding to the environment A from which the at least one base model originated using:

$\left((f_a : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_A(x)\right)$, wherein

A is the channel environment for training data set from which the base model originated;

X is a training data set of feature vectors of a target class;

X' is a transformed stacked target model training set;

$R^D$ is an input pattern feature space;

$R^M$ is a feature space calculated by base scores on the A-channel base models;

$f_A$ is the stacked target model based on the feature vector corresponding to the environment A; and

~~wherein~~ there is independence between the at least one base model and the stacked target model allowing for a single enrollment of a target class;

a second transform arrangement which produces a channel compensation stacked target model based on a feature vector corresponding to environment B using:

$\left((f_b : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_B(x)\right)$, wherein

B is the new channel environment;

$R^D$ is the input pattern feature space;

$R^M$ is a feature space calculated by base scores on the set of B-channel base models; and

$f_B$ is the channel compensation stacked target model based on the feature vector corresponding to the new environment B;

a verification arrangement which compares the second transform with the first transform to arrive at a determination of mismatch in feature relationships present in

environment A, wherein focus is preferably shifted from $f_B$ to or from $f_A$ depending on the degree of mismatch between the at least model from environment A and the model from environment B; and

~~wherein the apparatus~~ an arrangement which produces a pattern recognition decision.

2. **(Previously Presented)** The apparatus according to Claim 1, wherein said apparatus is adapted to perform speech recognition and said input arrangement is adapted to input speech features.

3. **(Previously Presented)** The apparatus according to Claim 1, wherein said base model arrangement is adapted to build a pool of base models.

4. **(Original)** The apparatus according to Claim 3, wherein said base models are Gaussian Mixture Models.

5. **(Original)** The apparatus according to Claim 3, wherein said environment detector is adapted to express the closeness of a set of at least one input feature to a given base model.

6. **(Original)** The apparatus according to Claim 1, wherein said feature vector represents at least one likelihood associated with at least one input feature in a given environment.

7. **(Original)** The apparatus according to Claim 1, wherein said environment detector is adapted to inform the production of said feature vector in correspondence with the environment from which the at least one base model originated.

8. **(Currently Amended)** A computer implemented method of performing pattern recognition, said method comprising the steps of:

inputting patterned features;

providing at least one base model;

ascertaining an environment from which the at least one base model originated; and

producing a stacked target model based on a feature vector corresponding to the environment A from which the at least one base model originated using:

$\left((f_a : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_A(x)\right)$, wherein

A is the channel environment for training data set from which the base model originated;

X is a training data set of feature vectors of a target class;

X' is a transformed stacked target model training set;

$R^D$ is an input pattern feature space;

$R^M$ is a feature space calculated by base scores on the A-channel base models,

$f_A$ is the stacked target model based on the feature vector corresponding to the environment A, and

~~wherein~~ there is independence between the at least one base model and the stacked target model allowing for a single enrollment of a target class;

a second transform arrangement which produces a channel compensation stacked target model based on a feature vector corresponding to a new environment B using:

$\left((f_b : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_B(x)\right)$, wherein

B is the new channel environment;

$R^D$ is an input pattern feature space;

$R^M$ is a feature space calculated by base scores on the set of B-channel base models; and

$f_B$ is the channel compensation stacked target model based on the feature vector corresponding to the new environment B;

verifying the stacked target model by comparing the second transform with the first transform to arrive at a determination of mismatch in feature relationships present in environment A, wherein focus is preferably shifted from $f_B$ to or from $f_A$ depending on

the degree of mismatch between the at least model from environment A and the model from environment B; and

producing a pattern recognition decision.

9. **(Previously Presented)** The method according to Claim 8, wherein said method is adapted to perform speech recognition and said inputting step comprises inputting speech features.

10. **(Original)** The method according to Claim 8, wherein said providing step comprises building a pool of base models.

11. **(Original)** The method according to Claim 10, wherein said base models are Gaussian Mixture Models.

12. **(Original)** The method according to Claim 10, wherein said ascertaining step comprises expressing the closeness of a set of at least one input feature to a given base model.

13. **(Original)** The method according to Claim 8, wherein said feature vector represents at least one likelihood associated with at least one input feature in a given environment.

14. **(Original)** The method according to Claim 13, wherein said ascertaining step comprises informing the production of said feature vector in correspondence with the environment from which the at least one base model originated.

15. **(Currently Amended)** A computer program storage device readable by a computer, tangibly embodying a program of coded computer instructions executable by the computer to perform method steps upon computerized data for performing pattern recognition, said method comprising the steps of:

inputting data corresponding to patterned features;

providing at least one base model;

ascertaining an environment from which the at least one base model originated; and

producing a stacked target model based on a feature vector corresponding to the environment A from which the at least one base model originated using:

$\left((f_a : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_A(x)\right)$, wherein

A is the channel environment for training data set from which the base model originated;

X is a training data set of feature vectors of a target class;

X' is a transformed stacked target model training set;

$R^D$ is an input pattern feature space;

$R^M$ is a feature space calculated by base scores on the A-channel base models;

$f_A$ is the stacked target model based on the feature vector corresponding to the environment A; and

~~wherein~~ there is independence between the at least one base model and the stacked target model allowing for a single enrollment of a target class;

a second transform arrangement which produces a channel compensation stacked target model based on a feature vector corresponding to environment B using:

$\left((f_b : \mathbb{R}^D \rightarrow \mathbb{R}^M, X' = f_B(x)\right)$, wherein

B is the new channel environment;

$R^D$ is the input pattern feature space;

$R^M$ is a feature space calculated by base scores on the set of B-channel base models; and

$f_B$ is the channel compensation stacked target model based on the feature vector corresponding to the new environment B;

verifying the stacked target model by comparing the second transform with the first transform to arrive at a determination of mismatch in feature relationships present in environment A, wherein focus is preferably shifted from $f_B$ to or from $f_A$ depending on

the degree of mismatch between the at least model from environment A and the model from environment B; and

producing a pattern recognition decision.

16. **(Previously Presented)** The apparatus according to Claim 1, wherein cascading of two model levels is utilized for channel mismatch compensation.

17. **(Previously Presented)** The method according to Claim 8, wherein cascading of two model levels is utilized for channel mismatch compensation.